OHM Corporation

FINAL REPORT FOR REMEDIATION SERVICES AT THE NL/DUTCH BOY PAINTS SITE PERTH AMBOY, NEW JERSEY

Prepared for:

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November 8, 1993
OHM Project 14296

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SECTION 1.0
INTRODUCTION

OHM Remediation Services Corp. is pleased to submit this Final Report to NL Industries Inc. for remediation services provided at the NL/Dutch Boy Paints Site (the "Site") located in Perth Amboy, New Jersey. The Site was sold by NL Industries Inc. in 1979, and is currently owned and operated by Custom Distribution Services, Inc. as a multi-tenant industrial park. Activities performed at the Site by OHM were conducted to fulfill the requirements of the Administrative Order on Consent, Index Number II-CERCLA-93-0103, known as the "Order" between NL Industries, Inc., and the U.S. Environmental Protection Agency. All work required by the Order has been completed. The information provided in this Final Report documents activities by the following categories:

- Project Overview
- Operational Task Review
- Sampling and Analysis
- Transportation and Disposal Activities
- Recordkeeping

Each category's section will include a narrative, explaining the items' evolution from project initiation through close-out, and chronological submittals of pertinent documents that were generated during Site activities.

SECTION 2.0
PROJECT OVERVIEW

OHM, under contract with NL Industries, Inc., performed remediation services at the Site, now known as the Custom Distribution Services, Inc. facility located in Perth Amboy, New Jersey. These services commenced in the latter part of the 1st quarter of this year (1993) and will conclude with the submission and subsequent EPA acceptance of this document. Provided below is a table which depicts major objectives of the Order with completion dates for each major objective.

Work Plan Generation inclusive of Contingency, Health & Safety, and Community Relations Plan	March - April 1993
Agency Work Plan Approval	April 13, 1993
Mobilization	April 15, 1993
On Site Activities (Work Tasks)	April 16 - September 29, 1993
Transportation and Disposal	May 5 - September 29, 1993
Final Report	November 8, 1993

During the execution of Site activities, OHM utilized the following resources:

Personnel	Equipment
1-Project Manager 1-Operations Supervisor 1-Foreman/Site Safety Officer 1-Equipment Operator 3-Clean-up Technicians 1-Sampling Technician Chemist 1-Transportation and Disposal Coordinator	1-Decontamination/Office Trailer 1-Bobcat Loader with Grappler Attachments 1-215 Trackhoe Air Operated Pumps Level B, C, D Protective Clothing Sampling Equipment Air Monitoring Equipment 1-Track Loader 1-Supply Trailer 1-Portable Shaker Screen

Operational activities related to the performance of the Scope of Work were performed in the following locations at the Site:

- Building #1
- Building #2
- Building #3 (Southside)
- Building #4
- Exterior Areas (3) Eastside

Appendix 1 (Site Map), delineates these locations.

SECTION 3.0
OPERATION TASK REVIEW

The following section describes the methodology OHM employed to perform the following scope of work.

- Mobilization
- Site Preparation
- Building Contents
- Soil Areas of Concern
- Transformers
- Friable Asbestos Removal
- Cleanup-Demobilization

3.1 MOBILIZATION

Personnel and equipment required to perform the scope of work were mobilized to the site on April 15, 1993. Resources were obtained from OHM's Windsor, New Jersey location.

3.2 SITE PREPARATION

Upon completion of mobilization, site preparation activities commenced and consisted of the following:

- Delineated work zones
- Set up personnel and equipment decontamination stations
- Prepared office and decontamination trailer
- Conducted site safety and work plan orientation with crew
- Posted appropriate warning signs at required locations
- Commenced daily/weekly planning and documentation activities
- Purchased required materials (i.e., crushed stone, disposal containers)
- Obtained representative samples of anticipated waste streams and submitted samples for required analysis
- Covered containers of chemicals which were subject to precipitation
- Installed temporary access ramps into Building #1 and Building #4 to allow for equipment access
- Set up portable shaker screen

3.3 BUILDING CONTENTS

During this task, OHM removed all containers located in buildings (1, 2, 3, and 4) as identified in the Order in paragraph 33 (a)(i). Prior to moving any container, a visual inspection was made to determine if it had leaked or could develop a leak during relocation. Containers which may have leaked, or had questionable integrity, were placed into an overpack container prior to movement. Containers were moved by cleanup technicians using drum carts, to pre-existing openings in the floor where they were safely lowered to the ground floor. The former location of the container was once again visually inspected and any contaminated debris was removed and containerized for subsequent disposal. Containers once on the ground floor were then intercepted with equipment adapted with drum grappling devices. The machine "grappled" the containers and placed them

on pallets, keeping any labeling or markings facing the outside. After four containers were placed onto each pallet, polyethylene shrink wrap was applied as needed around the containers to prevent dislodging from the pallet during movement. A bobcat loader with fork attachments transported the full pallets to the staging/sampling area. Adequate spacing was left between the rows of palletized containers in the staging area to allow access for the sampling technician.

Prior to using the staging/sampling areas, they were prepared by placing polyethylene sheeting over the floor, to protect against contamination. The main staging area was located on the lower floor of Building #4, and a temporary staging area was located in Building #1 on the lower floor.

Containers having no contents were also encountered during consolidation efforts. Technicians verified that the containers were empty, moved them, and neatly staged them for inspection and viewing.

As containers were accumulated within the staging area, the Sampling Program commenced. The Sampling Program was designed to collect representative samples of the container contents.

Using disposable PVC probes for solids, and glass drum thiefs for liquids, OHM obtained samples from the containers. This resulted in obtaining an individual sample representative of each item sampled. Before obtaining a sample, technicians documented on a drum log, the pertinent information about the item and contents to be sampled (e.g., size, volume/contents, color, labeling, or markings). After each container was sampled, the following was done:

- A number was affixed to each container (top and side).
- The containers were sealed and covered to prevent intrusion from the elements.
- OHM packaged the samples, completed chain-of-custody records, and transported the samples to the analytical laboratory.
- Copies of all container or drum inventory logs along with chain-of-custody records are submitted as part of this Final Report, in Appendix 2.2 and 3.0, respectively. Activities associated with the container consolidation efforts generated the following quantities of containerized materials which were disposed of off site.

# of Containers Consolidated and or Unconsolidated	Contents	State Manifest #	NL #
36	Waste Solid	PAC6078015	93 013
4	Waste Liquid, non-RCRA/non-DOT	PAC6078015	93 013
24	Waste Liquid, Flammable	PAC6078052	93 014
15	Waste Solid, Oxidizing	PAC6078052	93 014
2	Waste Solid, Corrosive	PAC6078052	93 014
2	Waste Liquids, Poison/Corrosive	PAC6078052	93 014
1	Lead/Battery Grid Metals	NJA1518531	93 015
20	Waste Solid, non-RCRA/non-DOT	PAC6078833	93 016
15	Waste Solid	PAC6078833	93 016
4	Waste Liquid, Corrosive	PAC6078844	93 017
2	Waste Liquid, Flammable	PAC6078844	93 017
2	Waste Paint	PAC6078844	93 017
9	Waste Solid, non-RCRA/non-DOT	PAC6078855	93 018
1	Other Regulated Material	PAC6078855	93 018
1	Waste Oxidizing Agents	PAC6078855	93 018
5	Waste Solid, Lab Pack	NYB454670-1	93 019
1	Waste Solid, Casings	NJA1518542	93 020
1	Waste Solid	PAC6078914	93 021
Total 145			

A total of 145 consolidated and/or unconsolidated containers were transported and disposed. Two containers of material, the casings and lead, were generated from areas outside of the Building, but were consolidated with Building contents. The 145 containers are a result of bulking activities which combined compatible waste group containers. The bulking effort is reflected when a comparison is made between the total number of containers sampled (261), versus the total number of containers transported and disposed of (145).

Empty metal drums and containers which had previously been staged in Buildings #1 and #4 were removed from the Site. The following is a list of the quantity and sizes of empty units removed:

Quantity	Site
75	55 gallon
225	5 gallon
350	<5 gallon
309	Container Lids/covers

3.4 SOILS

Three areas required the removal of battery grid metals and casings as set forth in paragraph 33 (a)(ii) of the Order.

OHM separated surficial materials in excess of ½" inch in size (stones, casings, grid metal, and building rubble) by passing them through a shaker screen. As a result of this operation, a total of 111.74 tons of size graded materials were transported and disposed of at a South Carolina secure landfill under NL Manifest #s 93 001 thru 93 005. Materials that passed through the screen were returned to their origin, while oversized materials were transported to a staging area constructed of polyethylene sheeting surrounded by an earthen-containment berm. The piles of material in the staging area were securely covered with polyethylene sheeting which draped down the pile and over the earthen berm to allow rain water to flow off the sheeting to the exterior of the staging area. Inspections were frequently performed to ensure integrity of the polyethylene coverings.

Due to the anticipated volume of material subject to disposal, Area 3 was addressed utilizing a combination of heavy equipment. A front end loader and excavator was used to collect and relocate the surficial material to a central location where a "stock-pile" was created. A trackhoe excavator removed materials from the stock-pile and placed them onto the portable shaker for size grading.

Graded materials were landfilled prior to the May 8, 1993 land ban. Accumulated grid metal was sent off-site for recycling (approximately 300 pounds).

In all three areas, final remediation consisted of technicians manually picking up any remaining visible casings or grid metal. Upon completion of remediation activities, a earthen/stone storm water diversion berm was installed along the northern perimeter of area #3.

3.5 TRANSFORMERS

The transformer removal task was commenced by obtaining a fluid sample from each transformer identified in the Order paragraph 33 (a)(iii). While doing so, OHM obtained the following pertinent information from each unit:

- Unit Dimensions (height, length, width)
- Approximate Weight (carcass only)
- Quantity of Fluid
- Access/Removal Limitations (if any)

Analysis revealed 4 out of the 12 transformers contained greater than 500 ppm of polychlorinated biphenyls (PCBs); one was empty. Subsequently, two additional transformers were located on Site and assumed to contain greater than 500 ppm PCBs based on name plate information.

To facilitate removal operations, OHM removed transformer fluids with like PCB concentrations, utilizing a licensed hauling vehicle equipped with a vacuum pump. The drained transformer carcasses were removed from their locations using standard rigging methods, and placed onto appropriate transport vehicles. Visual inspection revealed an area approximately 2000 square feet within Building #3, that required removal of surface debris potentially contaminated with PCBs, as required by paragraph 33 (a)(iii) of the Order. OHM technicians manually removed and containerized the accumulated dirt and debris using long handled scrapers and shovels. This cleaning process generated twenty three 55 gallon size containers of debris.

Activities associated with the transformers generated the following volumes of materials for off site disposal:

Type	Quantity	State Manifest #	NL#
Fluid ≥ 500 ppm PCB (Bulk Shipment)	18,900 pounds	MO. Uniform Manifest	93-007
Fluid <50 ppm PCB (Bulk Shipment)	459 gallons	NJA1518527	93-008
Debris≥ 500 mg/kg PCB	23	NJA1518528	93-009
Fluid ≥ 500 ppm PCB	3 drums	NJA1518528	93-009
Fluid <50 ppm PCB	1 drum	NJA1518528	93-009
Transformer Carcass ≥ 500 ppm	6	NJA1518524	93-010
Transformer Carcass <50 ppm	8	NJA1518534	93-011
Transformer Carcass Flushes	14 units	performed off-site	

3.6 FRIABLE ASBESTOS REMOVAL

Friable Asbestos removal activities at the Site were performed by OHM's subcontractor, National Surface Cleaning, (NSC). The majority of the removal effort was in the boiler room located on the 3rd floor of Building #4, as described in the Order, paragraph 33 (a)(iv), however, smaller removal tasks were also completed in the following areas:

- Adjacent storage area, 3rd Floor, Building #4
- Building #1, 1st Floor, Pipe Section
- Miscellaneous locations in Buildings #1, 2 and 4

NSC removed all the installation from the confines of the boiler room in accordance with all applicable regulations governing asbestos abatement, and its disposal. The following outline depicts the operational flow of events that were instituted for the asbestos abatement in the boiler room:

- Posted asbestos warning signs
- Erected temporary personnel decontamination station(s) contiguous to work area
- Sealed structure voids within the boiler room using plywood and polyethylene sheeting
- Installed and maintained negative air handling system
- Removed and bagged all insulation while adequately wetting
- Washed down all interior surfaces and equipment; containerize and or filter wastewater
- Obtained final air clearance
- Final lockdown with application of encapsulant
- Tore down containment
- Disposed of materials

In areas where displaced insulation, or boxes of virgin insulation existed, the insulation was wetted using low volume/low pressure applicators prior to handling, which eliminated potential for airborne fiber releases. All materials were double bagged, labelled, and disposed in accordance with all applicable regulations.

The asbestos removal activities generated one 20 cu. yd. container of hazardous substance solid (N.O.S.), asbestos ORM-F; which was disposed of by Allegro Carting.

3.7 CLEANUP/DEMOBILIZATION

Upon completion of site work activities, OHM commenced cleanup operations with the dispatching (from site) of equipment and supplies to their respective origin. Simultaneous with equipment dispatching was a policing of OHM's work areas which ensured all trash and supplies generated during the project were properly removed.

SECTION 4.0
SAMPLING AND ANALYSIS

The objective of OHM's sampling and analytical program for work performed at the Site was to acquire quality information on each media under investigation to allow for it's proper disposal. Tasks associated with ensuring the program objectives were successfully achieved, as follows:

- Collection of samples; ensuring representativeness of the media sampled
- Obtaining adequate sample volume
- Maintenance of sample integrity
- Accurate and timely analytical data.

OHM's field chemist insured that all samples obtained throughout the project were accurately recorded. At a minimum, the following information was recorded when a sample was obtained.

- Date and time sample was obtained
- Samplers identification
- Project # and location
- Matrix description (color, physical state)
- Unique tracking number assigned to sample container
- Requested analysis to be performed
- Retain chain of custody copy

Additional information was recorded when samples were obtained from containers as follows:

- Container condition/integrity
- Container construction type
- Container size
- Contents layering

Throughout the project, analysis were performed by OHM's subcontractor (Analytical Services Corp.) as required for proper waste consolidation, shipping, and disposal facility requirements. Analytical tests that were performed by Analytical Services Corp. included the following:

Haz Cat (Conventional)	TCLP
Polychlorinated Biphenyls	Total Base/Neutral/Acid
RCRA Metal Analysis	Total Volatiles
Test Bulking	

During all Site activities, OHM performed monitoring within and around specified work areas. This monitoring was performed to detect any airborne contaminants which was then related to the required level of protective gear each worker donned. The real time data was shared with all site personnel. The data confirmed that precautions taken by OHM were adequate for worker safety.

As part of the Final Report, OHM has included copies of the analytical data (Appendix 3) generated during the performance of the scope of work.

SECTION 5.0
TRANSPORTATION AND DISPOSAL

OHM's transportation and disposal (T&D) procedures were initiated with the review of analytical data from composited (Bulk) samples of each waste stream. OHM's T&D coordinator transcribed each waste stream's respective analytical information onto a waste profile, which was then forwarded to qualified disposal firm(s). Upon receipt of waste stream acceptance and packaging requirements, shipping dates were confirmed and OHM's personnel and equipment required to perform the loadout were scheduled.

OHM's weekly planner of activities provided advanced notification of anticipated shipping dates to the EPA. Notification of confirmed scheduled shipment date(s) were provided to the EPA on-site Representative or OSC from OHM's Field Coordinator.

Below is a listing of waste streams disposed of during the performance of the scope of work at the Site.

Waste stream	Quantities	Disposal Method
Graded Materials including Casings	111.74 tons + 1 drum	Landfill
Battery Grid Metals	1 drum (300 lbs)	Recovery
Bldg. Contents (Containerized Materials)	79 drums	Landfill
	45 drums	Incineration
	19 drums	Treatment
Transformer Carcasses	6	Landfill
Transformer Carcasses	8	Recycled
Transformer Fluids ≥500 ppm (PCB)	18,900 lbs (Bulk)	Incineration
≥500 ppm (PCB)	3 drums	Incineration
<50 ppm (PCB)	1 drum	Incineration
<50 ppm (PCB)	459 gallon	Treatment
Debris ≥ 500 mg/kg (PCB)	23 drums	Landfill
Friable Asbestos Materials	≤ 20 cu. yds.	Landfill

Copies of the manifests and/or shipping papers for all materials disposed of from the Site are included in Appendix 4.

SECTION 6.0
RECORDKEEPING

During the course of Site activities, as part of normal operating procedures and in compliance with the Order, OHM maintained and provided documentation of all activities. The following is a list of the documentation that was submitted and/or maintained.

Type	Submittal Frequency	Contents/Purpose
Work Plan	One time (pre project)	Technical approach
Site Safety Plan	One time (pre project)	Worker protection
Contingency Plan	One time (pre project)	Emergency pre-planning
Sampling Program	One time (pre project)	Sampling procedures/protocols
Daily Report*	Weekly (within five days week ending)	Pertinent weather information Quantitative work performed Unusual conditions Subcontractor Services Submittal Tracking Discussions/Meetings Financial Tracking Subsequent Planning List of results received
Foreman's Workplan (Daily)*	Weekly (within five days week ending)	Task specific tracking Task specific resources Task production/accountability
Weekly Planner*	Weekly	Task duration, task overlap Resource requirements Schedule comparison Forecast by task
Final Report	One time (post project)	Summary of operations Analytical Transportation Disposal Waste quantities Air monitoring data

* Appended